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ABSTRACT

As a precursor to making recommendations for more effective assessment methods for teacher certification, an examination is made of the professions of law and medicine. Specifically, the examination covers the relationship between training programs and the methods employed for evaluating prospective lawyers and doctors to ensure that they have the requisite knowledge, skills, and abilities to practice their professions. It is concluded that medicine's attempt to develop a Comprehensive Qualifying Examination that will comprehensively assess students is readily transportable to the field of education. It is also pointed out that the legal field's success with developing a performance assessment measure as part of its qualifying examination demonstrates that areas once thought to be outside the realm of paper/pencil tests are subject to feasible, valid, and reliable assessment. (JD)

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THE Northwest Regional Educational Laboratory

PROGRAM REPORT

An Exploration of Alternative Assessment Methods For the Field of Education: From the Fields of Law and Medicine

Lynde Paule
Stephen L. Murray

Evaluation and Assessment Program

June 26, 1987

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Overview/Introduction

One of the long standing traditions of teacher education programs across the United States has been autonomy. Although programs are developed to prepare prospective teachers and to enable them to satisfy state certification requirements, the tradition of autonomy has permitted teacher preparation institutions to establish their own goals and to evaluate how adequately they are achieved. Such evaluation extends beyond student progress and includes assessment of various aspects of the college's or university's function, such as programs leading to advanced professional degrees (e.g., M.Ed., Ed.D.). Institutional autonomy in student evaluations includes the content of subject matter to be covered, the format, the timing, and the standards to be met to achieve passing and higher levels of performance. That institutions should be free to evaluate their own performance and that of their students is consistent with other academic values such as academic freedom.

However, freedom is not absolute and must be balanced by responsibility. Although most institutions of higher learning have demonstrated sensitivity to their responsibilities, they must continually adapt to emerging social expectations. In the past, specific concerns were avoided because colleges and universities were institutions of learning only and teacher certification was controlled by public bodies (i.e., certification agency sanctioned by state legislatures) established for that purpose. The certification agency invoked education, training, and experience prerequisites, as well as in some cases, an examination requirement (Fortune et al, 1984). Those prospective teachers who met their state's standards were entitled to a teaching certificate.

Renewed concern with teachers not being adequately screened or trained and interest in turning teaching into a profession (Darling-Hammond, 1986) has drawn attention on the intricate relationship between teacher training programs and certification standards. Specifically, the methods for evaluating prospective teachers to ensure that they have the requisite knowledge, skills, and abilities to become certified are undergoing change. The once loose relationship between universities/colleges and agencies responsible for certification therefore, is tightening up as these institutions face the need to ensure that teachers are properly trained and competent to teach. At present, teacher preparation and certification requirements that are to go beyond the responsibility of the colleges/universities and that of the state certification agency are being discussed. The issue of internal versus external quality control has influenced the autonomy of teacher preparation institutions. As noted above, the need to ensure that teachers are properly trained and competent to teach is the impetus behind changing the requirements for becoming a teacher.

A variety of options may meet this need. One could take the position that teacher preparation institutions merely educate learners, assuming no role for preparing prospective teachers with the specific skills and abilities for becoming certified. In other words, the lines of responsibility between training and certification would remain clearly demarcated without any overlapping roles or responsibilities. Under this system it is conceivable that a hiatus would develop between what students learn and what the certifying agency expects them to learn, resulting in a significant number of prospective teachers not being certified.

Another alternative is for representatives of society merely to sample learners' competence according to a set of prespecified minimal essential competencies and otherwise rely on the schools' evaluation and sanctioning of student competence. This would create problems, as some institutions may emphasize one aspect of professional development, while other institutions emphasize something different. Moreover, sampling could result in inadequate evaluations. The present disparities found in teacher education programs within and across states and differences in certification requirements across states illustrates the magnitude of this problem.

Still another alternative would be for certain objectives to be examined internally and others to be done both internally and externally. Here, the type of objective, e.g., level of knowledge in subject matter content, the quality of relationship between teacher and students, mastery of a variety of teaching methods and styles (see Teacher Assessment Project News, 1987), would dictate the most appropriate method(s) for evaluating prospective teachers (e.g., performance assessment, observations, simulation, paper/pencil test). The locus of responsibility for evaluation and granting certification would be determined by those having a vested interest in the outcome.

To varying degrees, this alternative is currently adopted in both medicine and law. For example, in medicine both internal and external examinations are administered to assess students' educational achievement as they progress through medical school. Such tests primarily assess knowledge but may also assess problem-solving skills. Importantly, the examination content is determined by faculty members. In law, the addition of a performance assessment measure in the California State Bar Examination is an example of an

external examination (written essay) that assesses prospective lawyers' problem-solving skills.

A key issue in assessment decisions of this type (e.g., setting standards, developing items, scoring tests) is whether individuals responsible for making certification determinations should be drawn from institutions providing the training or whether they should be independent of the institution. Too close a relationship introduces the possibility of a conflict of interest. If the certification body is drawn broadly from different educational institutions across states, thereby creating something akin to a national certification, this need not be a major problem, provided that there is no evidence of an active or a tacit "conspiracy."

It is clear from the omnipresent attention being focused on education that society is ready for a reexamination of the relationship between teacher certification and teacher education programs with the hope of increasing the standards for becoming a teacher. This demand has prompted a search for new ways to assess prospective teachers. At a time of increased demand for public accountability at all levels of society, efforts by teacher preparation institutions to retain their autonomy will conflict with the need for some form of external quality control.

As changes are considered, the interests of teacher training programs, students, and society should all be considered. For instance, how adequately will all teacher training institutions and faculties assume their responsibilities? How will teacher training institutions monitor the performance of their graduates to ensure that institutional objectives are being met? What forms of assessment best measure the myriad competencies

required of teachers? Who will determine the levels of competency and check to see that standards are adhered to? As educators grapple with these issues it is instructive to look to other professions for guidance in how to deal with the problems facing education. Similar to education, law and medicine have had to be responsive to the demand for public accountability. Over the years, writers (see, for example, Darling-Hammond 1986; Sykes, 1986) have turned specifically to the august professions of medicine and law to examine what needs to happen to elevate teaching to the status of a profession.

A secondary and often underutilized benefit emanating from this type of analysis is the valuable historical accounts of why a profession operates the way it does. This information ultimately can and should be used to instruct the field of education about what the differences and similarities in the fields of law, medicine, and education mean, insofar as the kind of changes that might be made in education. Both the education which prospective law and medical students receive and the methods for evaluting students and for the granting of a license have come under public scrutiny. Changes have been made to reflect society's concerns. Note, for example, Professional Ethics Exam was instituted in law after Watergate. The concerns precipitating the changes are as important to understanding the changes as are the actual changes themselves. Many of the concerns parallel, (e.g., the need for performance assessments of the skills required to practice a profession) those expressed in education, and thus several of the resolutions adopted by law and medicine appear relevant.

As a precursor to making any recommendations for what education might adopt we will first take a closer look at the two professions of law and medicine. Specifically, our examination will cover the relationship between training programs and the methods employed for evaluating prospective lawyers and doctors to ensure that they have the requisite knowledge, skills, and abilities to practice their profession.

Medicine

In the United States medical faculties vary their use of evaluative instruments to assess either their students' progress during medical school or the scope and quality of their educational programs. However, since all faculties are aware that their students ultimately must pass a national licensing examination to practice medicine, the content of the exam has, over time, shaped the content of the training programs. Historically, the responsibility for educating students in medicine and the responsibility to determine who shall be licensed to practice medicine in this country have been separate and distinct. Faculties of legally chartered and voluntarily accredited medical schools have the educational responsibility, and licensing agencies have the statutory authority to determine who will practice medicine within their jurisdictions. Graduates of medical schools outside the United States have, since 1958, been certified through the Educational Commission for Foreign Medical Graduates (ECFUG) or its antecedent organization, the Educational Council for Foreign Medical Graduates (ECFMG). This certification has provided verification of graduates' credentials and evaluation of their biomedical knowledge.

The relationship among the medical school faculty, which has the responsibility for the educational program and the authority to grant the M.D. degree; the state medical boards, which have the licensing responsibility and the authority to determine who shall be licensed to practice medicine; and the ECFMG, which has the responsibility of certification, is complex. The complexity is compounded by the fact that the National Board of Medical Examiners (NBME) provides examinaton services to the faculties, state licensing authorities, and the ECFMG.

The National Board of Medical Examiners was founded in 1915 as a private, independent agency to improve the quality of medical licensure examinations in the United States. The initial objective was to provide examinations of sufficient quality that state boards might, at their discretion, accept certified diplomates of the NBME for licensure without additional examination. Although it was not the original intention of the NBME to dictate medical school curricula, material tested on the National Boards is reflected in the structure and content of medical school curricula. This occurs because examination content is determined by faculty members who represent most schools of medicine. Hence, the impact of NBME content and structure on medical education and medical practice has been significant. The NBME examinations have become a national standard recognized by many medical school faculties to measure both students' educational achievement and the adequacy of the institution's medical education program. A large number of U S medical schools use Part I (of 3 parts)[1] of the test as a method of determining medical school students' aptitudes for their future practice of medicine. In addition, licensure in many states currently requires either

certification by the NBME or a passing score on the examination of the Federation of State Medical Boards (FLEX), which is constructed entirely of National Board test items.[2]

This relationship between a school's faculty and a private, independent examining board is unique to medicine. Faculty members not only prepare test questions but also establish the specifications for the content of the examinations and select the items to fulfill the specifications. Thus, faculties play a critical role in setting the educational standards that must be satisfied for licensure.

In recent years, there has been considerable discussion about the relevance and validity of the external examinations as the sole means for evaluating medical education and the competence of medical students. Specifically, the examinations have been criticized for failing to measure students' humanness, ability to reason at times of emergency, and ability to use the library and consultants to assist in solving problems (Kappelman, 1983). Proponents for retaining the exams, albeit with some modifications, (e.g., Burg, 1981) argue that the examinations eliminate the redundancy of test development across medical schools. Burg notes that the availability of national examinations relieves individual faculty members from the task of writing test items in the various disciplines. Because of the amount of effort necessary to generate a high quality test item, having a national reservoir of questions developed by the subject-specific faculties for the NBME is a significant aid in the evaluation of medical student performances.

According to Burg, the NBME provides high quality testing instruments. The use of the NBME to develop examinations with proven reliability and

content validity is a service that could be matched only with great expense and difficulty by each of the participating medical schools. However, Burg goes on to note that the abilty of students to interact appropriately with patients, to access the literature, and to perform technical skills cannot be measured by the NBME. Burg stressed the importance of identifying the test's limitations and supplementing the NBME with evaluation procedures that can assess those areas determined to be deficient. He felt that without some type of supplemental evaluation of important skills, it would be possible for medical students to graduate from medical school with major deficits in their armamentarium of skills and abilities. To solve the extant testing deficiencies Burg argued in favor of a comprehensive internal and external testing program that assesses the student's total capacities as a physician.

The internal examination would serve the dual purpose of assessing student competency, as well as providing an evaluation of the school's curriculum. The manner in which the NBME and FLEX are constructed precludes there being a close relationship between a student's specific learning experiences, a particular school's goals and objectives, and the items on the test. The external examination could continue to serve as a standard for schools in diverse locations. Internal examinations, on the other hand, could be tailored to reflect a student's learning experiences and the school's goals and objectives.

For example, evaluation of a student's skills in obtaining a history, performing a physical examination, and synthesizing that information to make

clinical judgments might be done through direct observation by faculty members. Passing both the internal and external examination would result in a student being granted a license to practice medicine. In response to concerns raised about the inadequacies of the extant external examination, the NBME has proposed a comprehensive evaluation that goes beyond a written exam. The Comprehensive Qualifying Examination (CQE) would assess ten tasks and five abilities required of a physician. A matrix of test content is shown below:

Abilities / Tasks	A Knowledge & Understanding	B Problem Solving	C Technical Skills	D Interpersonal Skills	E Work Habits & Attitudes
1. Taking a History	X	X			
2. Performing a physical.	X	X			
3. Using diagnostic aids	X	X			
4. Defining problems	X	X			
5. Managing therapy	X	X			
6. Keeping records					
7. Employing special sources of information					
8. Monitoring & maintaining health	X	X			
9. Assuming community & profile responsibility					
10. Maintaining professional competence					

The cells marked with an "X" indicate areas that the NBME feels can be assessed with a written examination. The content reflected within the remaining 38 cells are areas that the NBME feels can only be evaluated by direct observation of examinees performing the identified tasks. These observations must be made by individuals qualified to judge whether the examinee has the requisite abilities. The CQE is still in the developmental phase. A key issue to be resolved is how to develop a standard for licensure in each of the areas.

The development of a Comprehensive Qualifying Examination with external and internal assessment will result in the medical profession maintaining their control over what subject matter content is examined, how it is examined, and by implication, what is taught in medical schools. That this recent effort by the NBME is occurring at a time when the public is clamoring for accountability illustrates that in medicine, the profession intends to be responsible for change. A parallel can be seen in law. The need for a better match between what is taught, what is tested, and what is practiced during a time of public accountability was also the impetus behind several changes in the field of law, specifically for changes in the bar examinations that qualify a student to practice law.

Law

In law, leaders of the profession, through the American Bar Association, have been instrumental in urging states to raise educational requirements for entry into the profession and have had considerable impact on the content taught and methods of teaching (Stevens,1985).

As early as the 1860's Theodore Dwight, a proponent of the Socratic method of teaching law, believed that there should be a close link between legal education and professional practice. Law school was, to Dwight, a substitute for an apprenticeship or clerkship. Dwight believed in teaching through the question and answer method-the quiz, as it was called at the time (Stevens, 1985). He did not, however, espouse supplementing the quiz method of teaching with the analysis or appellate cases by students; he used the lecture rather than the case method. By the 1890's, however, the lecture method was replaced by what was presumed to be a more scientific way of teaching: the case method (see Sykes, 1986). Along with this reform came the case method of examination, in which assessment, while in law school and at the end of law school (bar exam), was with essay tests that required students to employ the case method to answer questions. The methodology used for teaching was easily transportable for assessing student competency in each of the disciplines of law (e.g., tort, contract, etc). Despite occasional opposition, the case method has remained as the dominant way to study the law.

More recent reforms within the profession while minor by comparison, nevertheless are clear movements toward making what is taught and tested in law school relevant to what is practiced when one enters the profession. In the 1950's this trend was expressed as a demand that courses be geared more to the bar examinations; as the 1960's drifted toward radicalism, these demands became more socially oriented. In what is an interesting juxtaposition of political and academic demands, clinical legal education, (CLE) influenced law schools in the late 1960's and early 1970's (Stevens, 1986). According to advocates of clinical legal education, clinical legal courses have influenced

the teaching methods and skills training of traditional legal curricula. Clinical courses force students to confront the same dilemmas faced by practicing attorneys (Catholic University Law Review, 1987). Despite its popularity with students, opponents (see Stevens, 1986) view clinical legal education as a fashionable trend that is tolerated by law schools "as a way of keeping the troops happy while the faculty--that is the full-time academic faculty--go on much as they did before" (Stevens, 1986, p.483). Nevertheless, the movement started some 25 years ago, has brought prospective lawyers much closer to the practical world of lawyering than has any other movement in law school.

The bar exam that students take at the culmination of their law school education has traditionally assessed subject matter expertise. In recent years law has experimented with multiple methods of measurement to assess student knowledge. This has involved exploring performance assessment tests that include two dimensions: content of a profession (e.g., skills one uses to practice the profession) and mode of evaluation. With performance assessment techniques, candidates no longer discuss how they might approach a problem; instead, they are asked to demonstrate how they would solve a problem in their field. In California, prospective members of the bar now spend one-third of their exam on performance assessment which serves to assess research skills used in legal practice. Candidates are given three hours to work on each of the two legal problems. Examiners provide candidates with a file that describes a realistic legal problem. In addition, they receive a library of background material necessary to analyze the legal problem, including relevant cases, correspondence and supporting documentation.

During the examination period, candidates are expected to review the materials, then perform several tasks that attorneys typically carry out. Candidates are given all the information necessary to perform the tasks; the examination is not an assessment of the candidates knowledge of a particular area of law. Instead, the examination seeks to assess legal skills by requiring a demonstration, including writing a letter to the plaintiff's attorney; drafting a memorandum to a senior partner regarding the strategy for the case; or writing a brief for submission to a county of law (Lareau, 1985).

The introduction of this performance test grew out of the State Bar of California's concern about the relationship between what is tested on the bar exam and the actual practice of law. An interest in increasing the applicability of test items to job settings and in increasing the passing rate of minorities on the exam prompted a series of studies conducted by the State Bar of California on innovative assessment methods. These studies included testing candidate's skills in simulated courtroom settings. Although simulations of courtroom settings are very expensive, research suggests (see Klein, 1983) that written performance tests assess many of the key elements of the more elaborate performance tests in courtrooms and other settings.

Unfortunately, the governance structure of law makes it highly unlikely that other states will necessarily follow suit with California's move toward establishing greater fidelity between what is taught, what is tested, and what is practiced. Aside from the multiple-choice part of the bar exam, which is national in scope and is taken by all law students in all but two states,[3] the essay tests that comprise the remaining part of the bar exam (except in California which has 3 parts) are designed independently by each of the State

Bars and relect what the Bar feels is important to know. The essays are graded by members of the profession who undergo a comprehensive training program. Passing rates for all parts of the bar exam are set by each state. Because of this dual system of examination, there is no standardization of content, structure or grading, nor is there any automatic reciproity for members of the profession should they decide to move to another state. Moreover, each state must assume the burden for developing a new examination annually or biannually.

The effect of governance arrangements on occupational control is complex and, as Lareau (1985) points out, not well analyzed. Law and medicine have sufficient autonomy from state regulatory boards to retain control over the examination process; however, the autonomy and responsibility afforded to law schools in developing their own curricula and to each state for developing part of its own bar exam translates into fragmented control over the profession at large. Depending on the school, students will exit their education with somewhat different bodies of knowledge. Assessment of student progress through the curriculum is generally a written examination similar to the essay portion of the bar exam. These exams form the internal quality control mechanism used by law schools to weed out the poorer students. However, because passing rates are set independently by each school, the ratio of the number of students eligible to take the Bar and those who pass is much larger than the ratio of medical students who take the Boards and pass. Lack of total control over curricula and exams in law leads to different standards; this increases the propensity for a more heterogeneous population of lawyers and greater numbers of people practicing the profession.

Discussion/Implications

The field of education is in a propitious position to adopt some of the strategies and methods employed by law and medicine to achieve a closer fit between what is taught, what is tested, and what is practiced. However, differences in the practices of the three fields must be carefully considered before directly adopting strategies used in law and medicine.

Medicine, in many respects, has near complete control of its curriculum, its testing, and acceptable standards of professional practice. Development of all three parts of the NBME, the two part FLEX, and the CQE is done by members of the profession, who through rotation on test committees, design the exams, and by implication set the educational standards for licensure. Control is centralized in that there are uniform standards employed within and without the U.S. Through internal control mechanism (students take parts of exams while in medical school) and external control mechanism, medical schools have achieved a relative consistency of student competency. Recent concern that existing exams do not assess the ability of students to interact appropriately with patients, assess the literature, or perform technical skills, has prompted the NBME to develop a Comprehensive Qualifying Examination to assess tasks and abilities required of a physician. One goal of this examination is to provide a comprehensive assessment of students. Doing so requires employing different assessment methods (e.g., observation, written exam) and determining the different loci of responsibility for ensuring that students have been properly assessed. A key issue yet to be resolved is how to develop appropriate standards for licensure for each area.

In contrast to medicine, law is a more decentralized profession in that control over curricula, testing, and practice is fragmented and the loci of responsibility for each of these areas generally depends on the state. However, one part of the bar exam is designed and graded by a national agency. This dual system of examination has resulted in different standards across states and often within states, expecially those states where students from unaccredited law schools are eligible to take the bar exam (e.g., California). However, in law, like medicine, recent concern about the relationship between what is tested and the actual practice of the profession has resulted in at least one state (California) adding a performance assessment measure to its bar exam. Students admitted to the Bar must now pass all three parts of the exam (multistate, essay exam, and performance assessment). The performance assessment has been applauded by social and political activists who shared a concern of test relevance for groups who traditionally have had difficulty passing the bar exam (Lareau, 1985). In a way similar to clinical legal education, an earlier movement to bring prospective lawyers closer to the practical world of law, performance assessment is probably here to stay.

The field of education is, at present even more decentralized than law, and is likely to remain so given its governance structure. Constitutionally, education is the responsibility of each state; this autonomy has been upheld by the courts and is likely to be adhered to despite attempts to centralize control in the form of uniform standards. Like law, decisions for changes in qualifications for practicing the professions are most likely to be made at the state level, although discussion about developing a national exam similar

to the NBME in medicine and the multistate in law is currently under way (see Teacher Assessment Project News, 1987). The goals of raising educational standards and of ensuring their enforcement by schools of education and state departments of education are probably most attainable at the state level first, followed by regional, and then possibly the national level. The long standing traditions of autonomy in teacher education programs across the U.S. do not necessarily preclude achieving these goals, but they do point to the level where cooperation needs first to be obtained.

This brief review of testing in law and medicine tells us where we might begin to address key issues facing education. Medicine's attempt to develop a Comprehensive Qualifying Examination that will comprehensively assess students is readily transportable to the field of education. A major controversy in education has been the issue of testing relevancy given the diverse tasks and abilities required of teachers. Delineating the tasks and abilities forces one to conceptualize those areas of critical import to the field and to examine different assessment strategies to improve the fit between what is taught, tested, and practiced. The field of law's success with developing a performance assessment measure as part of its qualifying examination demonstrates that areas once thought to be outside the realm of paper/pencil tests are indeed subject to feasible, valid, and reliable assessment. While education may not have the control medicine has in constructing the CQE, it does have the professional expertise and knowledge to begin work on a project of this nature.

Footnotes

[1]In 1922 the NBME established a 3 part examination sequence. Part I covers the material taught in the sciences basic to medicine, Part II covers the clinical science knowledge base, and Part III assesses candidates' abilities to deal with clinical problems. Until 1951 Parts I and II were essay examinations and Part III was a practical bedside examination Between 1951 and 1961 the three part sequence was converted to a multiple-choice format, with patient-management problems making up most of the Part III examination. In recent years, the emphasis on performance in an examination which tests primarily cognitive recall skills and familiarity with the multiple-choice method has been criticised because it is presumed-by adversaries- not to adequately test judgment or clinical performance. (Barrett-Connor, 1980).

[2]In 1966 the Federation of State Medical Boards introduced the Federation Licensing Examination (FLEX). The introduction and acceptance of the FLEX was viewed as a major accomplishment by the federation in its efforts to improve the standards for medical licensure.

[3]The National Conference on Bar Examiners develops the Multistate Bar Exam and a separate Professional Ethics Exam. The exams are graded by a national agency.

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